

## **Regulation of extracellular phosphohydrolase biosynthesis in bacilli | Reguliatsiia biosinteza vnekletochnykh fosfogidrolaz u batsill.**

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### **Abstract**

Under phosphate-deficient conditions, *B. intermedius*, *B. pumilus*, and *B. thuringiensis* secrete phosphohydrolases, including phosphomono-, phosphodiesterases, and guanyl-specific ribonucleases which cleave RNA molecules to nucleoside-3'-phosphatases. The enzymes are synthesized by phosphate-starved vegetative cells, which is not associated with sporulation. Using *B. subtilis* strains with mutation in the regulatory protein genes *phoP* and *phoR*, it was shown that these proteins regulate expression of *B. intermedius*, *B. pumilus*, and *B. thuringiensis* ribonuclease genes in *B. subtilis* cells. Genes of heterologous RNases were activated in recombinant *B. subtilis* strains simultaneously with its own PHO regulon genes. Presumably a regulatory system homologous to *B. subtilis* two-component PhoP-PhoR signal transduction system functions in other representatives of the *Bacillus* genus.

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